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A BRAIN OF ABOUT ONE-HALF THE AVERAGE
WEIGHT FROM AN INTELLIGENT
WHITE MAN.

BY PROFESSOR B. G. WILDER.

(*Read April 22, 1910.*)

For the privilege of examining and reporting upon this unusual—perhaps unique—brain I am indebted to Dr. J. H. Larkin, professor of pathology in the College of Physicians and Surgeons, New York city.

History.—According to Dr. Larkin's records Daniel Lyon died on the tenth of October, 1907, from asphyxia due to edema of the glottis. He was Irish, 46 years old, five and one-half feet high, and weighed 145 pounds. No relatives have been discovered and it is not known that any survive. At the time of his death he lived at 409 E. 17th St., New York City, and was a watchman for the New York Contracting Company at the Pennsylvania Terminal, 34th St. The legal representative of that company says that "from all reports there was nothing defective or peculiar about him, either mentally or physically." No photograph or hat-measurement has been obtained. No information has been gained by inquiries addressed to his alleged fellow-workmen or former places of residence, but Dr. Larkin was informed that he could read and write; that he was regarded as competent and in full possession of his faculties; and that as a laborer he had worked in one position for twenty years. There seems to be no reason why he should not be regarded as of ordinary intelligence; yet, as will be seen, his brain might have belonged to a feeble-minded person, or even an idiot.

Shortly after death the brain was removed in the presence of Dr. Larkin and the coroner's physician, Dr. Philip O'Hanlon. No head-measurements were made, but it did not appear to be unusual in either size or shape. The brain filled the cranium; there was no

excess of liquid, and no evidence of compression. Upon accurate scales the brain was found to weigh exactly 24 ounces, or 680 grams, about one-half the average for male Caucasians. It was placed immediately in ten per cent. formalin, and there remained until sent to me more than two years later.

Examination and Results.—At its reception by me on the thirteenth of January, 1910, the brain weighed 714 grams, having enlarged slightly in the preservative. Subsequent immersion in alcohol reduced the weight to 682 grams on February 7 and on April 6 to 512, a trifle over 18 ounces. Of this total, after transection at the midbrain, the cerebrum proper represented 404 grams and the cerebellum, with the pons and oblongata, 108; the ratio is less than 4 to 1 instead of the usual ratio of about 8 to 1. Indeed, the cerebellum seems nearly normal in size and form, while the cerebrum lacks about one-half the usual weight and is peculiar in several respects.

Form of the Cerebrum.—The present disproportionate width and the flatness of the middle of the dorsum are probably due to the weight of the brain itself as it hardened in a liquid of less specific gravity. To the same cause may be ascribed some of the divarication of the occipital lobes and the concomitant exposure of the cerebellum; respecting the original conditions in these respects there are neither records nor recollections. The occipital lobes are very slender, and their cavities are slight. The cunei, associated with vision, are extremely narrow, but the parts of the temporal lobes associated with smell are well developed, and the post-rhinal fissures distinct. On both sides the insula is partly visible, but that sometimes occurs with ordinary brains, and in the superior brain of a philosopher, Chauncey Wright. On the left the insula has been fully exposed by removing the operculums; it is small, presents no true fissures, and resembles a rounded ridge curved sharply about a deep pit at the dorsal side. The precunei, regarded as "association areas," seem fairly well developed. Whether there is a marked deficiency of the "speech center," the subfrontal gyre (Broca's convolution) I am not yet prepared to state. Transections of the right hemisphere at four levels indicate unusual smallness of the cavities, and a reduction in the alba

or white substance rather than in the cortex or gray matter; upon these points and upon the size of the callosum I hope Dr. Spitzka may be willing to comment even at such short notice.

Fissural Peculiarities.—Of these there are several, and some are indicated upon the charts. Their detailed discussion would be out of place in a comprehensive society like this until such time as the normal human fissural pattern is familiar to pupils in or below the high school.

This brain is not ape-like. Even were it still smaller it is distinctly human. The mesal cleft or "valley" of the cerebellum is deeper than in any ape. The calcarine and occipital fissures are deeply continuous while, with rare exceptions, they fail to unite in apes. Even the insula, deficient as it is, does not resemble that of apes, and the "speech-center" is of the human type.

Brain-weight and Intelligence.—Upon the present occasion attention is particularly directed to this exemplification of the possibility that ordinary human intelligence may apparently coexist with a brain of only one-half the ordinary size, exceeding that of certain apes by only 180 grams (about six ounces), and not quite double the size of the brain of a congenital idiot.